WHAT IS CLAIMED IS:

1.   A coordinate input apparatus which calculates position coordinates of a coordinate input pointing tool with respect to a coordinate input surface,

5   comprising:

         calculation means for calculating the position coordinates of the coordinate input pointing tool;

         change means for changing the position coordinates on the basis of predetermined coordinates

10   related to a distance between the coordinate input surface and the coordinate input pointing tool; and

         output means for outputting the position coordinates changed by said change means.

2.   The apparatus according to claim 1, wherein said

15   change means changes the position coordinates by multiplying the position coordinate values by a predetermined coefficient on the basis of the coordinates related to the distance between the coordinate input surface and the coordinate input

20   pointing tool.

3.   The apparatus according to claim 1, further comprising interpolation means for interpolating the position coordinates changed by said change means.

4.   The apparatus according to claim 1, wherein the

25   coordinate input pointing tool further comprises ultrasonic wave generation means for generating an ultrasonic wave to input a position to the coordinate

input surface.

5.   A coordinate input apparatus which calculates
position coordinates of a coordinate input pointing
tool with respect to a coordinate input surface on
5   which an X-Y plane and a Z-axis with respect to the X-Y
plane are defined, comprising:

calculation means for calculating the position
coordinates (X,Y,Z) of the coordinate input pointing
tool;

10   determination means for determining an operative
state of a predetermined switch of the coordinate input
pointing tool;

comparison means for comparing a predetermined
value with a Z-coordinate value of the (X,Y,Z)
15   coordinate values calculated by said calculation means,
on the basis of a determination result of said
determination means; and

control means for controlling output of the
position coordinates (X,Y,Z) calculated by said
20   calculation means, on the basis of the determination
result of said determination means or the determination
result of said determination means and a comparison
result of said comparison means.

6.   The apparatus according to claim 5, wherein said
25   control means determines a coordinate output form of
the position coordinates (X,Y,Z) calculated by said
calculation means, on the basis of the determination

result of said determination means or the determination
result of said determination means and the comparison
result of said comparison means.

7.   The apparatus according to claim 6, wherein the
5 coordinate output form includes

a first coordinate output form in which at least
(X,Y) coordinate values of the position coordinates
(X,Y,Z) calculated by said calculation means are
output, and

10   a second coordinate output form in which
differential coordinate values (X,Y,Z) as differences
between predetermined position coordinates calculated
by said calculation means and position coordinates
(X,Y,Z) calculated by said calculation means later as
15 the coordinate input pointing tool moves are output.

8.   The apparatus according to claim 5, wherein said
control means determines a presence/absence of the
output of the position coordinates on the basis of the
determination result of said determination means or the
20 determination result of said determination means and
the comparison result of said comparison means.

9.   The apparatus according to claim 5, wherein when
the determination result of said determination means
indicates that the predetermined switch is in the
25 operative state, said control means outputs at least
(X,Y) coordinate values of the position coordinates
(X,Y,Z) calculated by said calculation means.

10.　The apparatus according to claim 5, wherein when the determination result of said determination means indicates that the predetermined switch is not in the operative state, and the comparison result of said

5　comparison means indicates that the Z-coordinate value is not more than the predetermined value, said control means outputs at least (X,Y) coordinate values of the position coordinates (X,Y,Z) calculated by said calculation means.

10　11.　The apparatus according to claim 5, wherein the apparatus further comprises

storage means for storing the predetermined position coordinates (X,Y,Z) calculated by said calculation means as first position coordinates, and

15　difference calculation means for calculating differences between the first coordinate values (X,Y,Z) stored in said storage means and position coordinates (X,Y,Z) calculated by said calculation means later as the coordinate input pointing tool moves, and

20　when the determination result of said determination means indicates that the predetermined switch is not in the operative state, and the comparison result of said comparison means indicates that the Z-coordinate value is not less than the

25　predetermined value, said control means outputs the differential coordinate values (X,Y,Z) obtained by said difference calculation means.

12.   The apparatus according to claim 11, wherein

the apparatus further comprises continuous input

state determination means for determining on the basis

of a coordinate calculation sampling rate of said

5   calculation means whether input by the coordinate input

pointing tool is in a continuous input state, and

the predetermined position coordinates are first

coordinate values of effective coordinate values during

the continuous input state based on the determination

10   result of said continuous input state determination

means.

13.   The apparatus according to claim 5, wherein when

the determination result of said determination means

indicates that the predetermined switch is in the

15   operative state, and the comparison result of said

comparison means indicates that the coordinate value

equals the predetermined value, said control means does

not output the position coordinates (X,Y,Z) calculated

by said calculation means.

20   14.   A coordinate input pointing tool of a coordinate

input apparatus having a coordinate input surface on

which an X-Y plane and a Z-axis with respect to the X-Y

plane are defined, comprising:

a first switch which is arranged at a distal end

25   portion and can be pressed;

at least two, second and third switches which are

arranged on a housing of the coordinate input pointing

tool; and

    production means for producing a first control
signal when at least one of said second and third
switches is in an operative state and producing a
5   second control signal when both of said second and
third switches are in the operative state.

15. The tool according to claim 14, wherein said
production means produces the first control signal when
the first switch is in the operative state.

10 16. The tool according to claim 14, wherein said
second and third switches are arranged adjacent to each
other in parallel to an axis of the housing.

17. The tool according to claim 14, wherein said
second and third switches are arranged adjacent to each
15 other along an axis of the housing.

18. A control method of a coordinate input apparatus
which calculates position coordinates of a coordinate
input pointing tool with respect to a coordinate input
surface, comprising:

20   a calculation step of calculating the position
coordinates of the coordinate input pointing tool;

    a change step of changing the position
coordinates on the basis of predetermined coordinates
related to a distance between the coordinate input
25 surface and the coordinate input pointing tool; and

    an output step of outputting the position
coordinates changed in the change step.

19.   A control method of a coordinate input apparatus
which calculates position coordinates of a coordinate
input pointing tool with respect to a coordinate input
surface on which an X-Y plane and a Z-axis with respect
5   to the X-Y plane are defined, comprising:

a calculation step of calculating the position
coordinates (X,Y,Z) of the coordinate input pointing
tool;

a determination step of determining an operative
10   state of a predetermined switch of the coordinate input
pointing tool;

a comparison step of comparing a predetermined
value with a Z-coordinate value of the (X,Y,Z)
coordinate values calculated in the calculation step,
15   on the basis of a determination result in the
determination step; and

a control step of controlling output of the
position coordinates (X,Y,Z) calculated in the
calculation step, on the basis of the determination
20   result in the determination step or the determination
result in the determination step and a comparison
result in the comparison step.

20.   A program which causes a computer to control a
coordinate input apparatus which calculates position
25   coordinates of a coordinate input pointing tool with
respect to a coordinate input surface, comprising:

a program code for a calculation step of

calculating the position coordinates of the coordinate
input pointing tool;

a program code for a change step of changing the
position coordinates on the basis of predetermined
5 coordinates related to a distance between the
coordinate input surface and the coordinate input
pointing tool; and

a program code for an output step of outputting
the position coordinates changed in the change step.
10 21. A program which causes a computer to control a
coordinate input apparatus which calculates position
coordinates of a coordinate input pointing tool with
respect to a coordinate input surface on which an X-Y
plane and a Z-axis with respect to the X-Y plane are
15 defined, comprising:

a program code for a calculation step of
calculating the position coordinates (X,Y,Z) of the
coordinate input pointing tool;

a program code for a determination step of
20 determining an operative state of a predetermined
switch of the coordinate input pointing tool;

a program code for a comparison step of comparing
a predetermined value with a Z-coordinate value of the
(X,Y,Z) coordinate values calculated in the calculation
25 step, on the basis of a determination result in the
determination step; and

a program code for a control step of controlling

output of the position coordinates (X,Y,Z) calculated

in the calculation step, on the basis of the

determination result in the determination step or the

determination result in the determination step and a

5   comparison result in the comparison step.